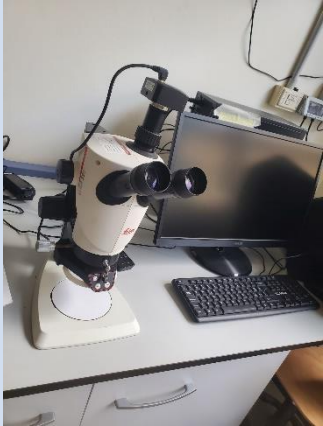



Metals for Advanced Manufacturing Laboratory (7h)

Activity	Instrument	Student action	
Microstructural characterization for Al, Cu e Ti materials	Optical Microscope Scanning Electron Microscope	Instrument use; data and results analysis and interpretation.	 A photograph of an optical microscope with a white base and black eyepieces, positioned on a desk next to a computer monitor and keyboard.
Hardness and microhardness and macro for Al, Cu e Ti materials.	Microhardness and macrohardness equipments	Instrument use; data and results analysis and interpretation.	 A photograph of a microhardness testing machine, which is a white, boxy device with a black stage and a digital display on the front.

Guided visit within Metals for Advanced Manufacturing (8h)

Activity/experience	Instrument/equipment	Student's action	
<p>Visit to an industrial plant (according to the availability from the company to host students group)</p>			